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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/445,044	12/01/1999	YOSHIO OHASHI	7246/58595	9396
7590	01/21/2004		EXAMINER	
JAY H MAIOLI COOPER & DUNHAM 1185 AVENUE OF THE AMERICAS NEW YORK, NY 10036			GRAHAM, ANDREW R	
			ART UNIT	PAPER NUMBER
			2644	
			DATE MAILED: 01/21/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/445,044	OHASHI, YOSHIO
	Examiner Andrew Graham	Art Unit 2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1 is/are allowed.
- 6) Claim(s) 2 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 October 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

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J.D.

DETAILED ACTION

Examiner's Amendment

1-12-04

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in telephone interviews with Pedro Fernandez on January 5 and 12, 2003.

The application has been amended as follows:

- Claims 3 and 4 have been cancelled.
- The phrase "cone paper" on page 2, line 8 has been changed to "a paper cone".
- The notation of equation 14 on page 15 has been changed to:

$$"N^2 = R1/R2"$$

$$"L1/L2 = N^2"$$

to more clearly express the involved mathematical formula.

- The notation of "N2" on page 18, line 7 has been changed to "N²".
- The phrase "where R1 is the CD resistance" in Claim 1 has been changed to "where R1 is the DC resistance".
- The phrase "L1 is the DC resistance of said primary coil" has been removed from Claim 1.

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- The variable "K²" in the version of Equation 8 submitted October 22, 2003 has been changed to "k²".
- The variable "fo" in the version of Equation 12 submitted October 22, 2003 has been changed to "f0".

The following changes to the drawings have been approved by the examiner and agreed upon by applicant: The label "singnal input line 9" in Figure 6 has been changed to "signal input line 9".

In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The basis of this rejection is that equations listed in the most recent amendment, submitted October 22, 2003, do not match those

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originally filed in the application. The current version of claim 2 contains the expression " $(N^2 \times R2 + L1 \times R1)$ " in the first set of parentheses of the first line of the claim, while the original equation contains the expression " $(N^2 \times R2 + R1)$ " listed on line 7, page 12 of the specification. The second line of the equation in the second claim also contains the expression " $(L1 \times R1 + L1 \times R1/N^2)$ " while the original formula on page 12 contains " $(L1 \times R2 + L1 \times R1/N^2)$ "

Specification

The amendment filed October 22, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The current version of Equations 4 and 7 contains the expression " $(N^2 \times R2 + L1 \times R1)$ " in the first set of parentheses of the first line, while the original equation contains the expression " $(N^2 \times R2 + R1)$ " listed on line 7, page 12 of the specification. The second line of the equations also contain the expression " $(L1 \times R1 + L1 \times R1/N^2)$ " while the original formula on page 12 contains " $(L1 \times R2 + L1 \times R1/N^2)$ ". Equation 8 also differs in that the newly submitted version includes the expression " $(R1 + k^2 \times R2 \times L1 \times L2)$ ", while the originally submitted version contains the expression " $(R1 + k^2 \times R2 \times L1 / L2)$ ".

Applicant is required to cancel the new matter in the reply to this Office Action.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 is allowable over the prior art of record because, while the prior art provides parallel speaker construction and operation, the Examiner found neither prior art cited in its entirety, nor based on the prior art, any motivation to combine any of the said prior art that teaches an a dual coil speaker wherein the relationship of the components satisfies the formula: " $N \times (R1 \times R2)^{1/2} / \{2 \times \pi \times L1 \times (1 - k^2)^{1/2}\} \geq 20000 \text{ Hz}$ " where R1 is the DC resistance of said primary coil, L1 is the inductance of said primary coil, N is the number of turns for said primary coil, R2 is the DC resistance of said secondary coil, and k is the coupling coefficient of said primary coil and said secondary coil, when considered in combination of with each of the other limitations recited in Claim 1.

Claim 2 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Response to Arguments

Applicant's arguments, filed October 16 with respect to Claim 1 have been fully considered and are persuasive. The rejection of Claim 1 has been withdrawn.

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Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Graham whose telephone number is (703) 308-6729. The examiner can normally be reached on Monday-Friday (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Isen, can be reached at (703) 305-4386. The fax number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

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Ag

Andrew Graham
Examiner
A.U. 2644

ag
January 12, 2003

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PRIMARY EXAMINER